



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,735	04/06/2001	Stuart William Arundell Hunt	01-461	6699
7590	07/08/2004		EXAMINER	LE, VU
Lawrence H. Aaronson McDonnell Boehnen Hulbert & Berghoff 32nd Floor 300 S. Wacker Drive Chicago, IL 60606			ART UNIT	PAPER NUMBER
			2613	DATE MAILED: 07/08/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/827,735	HUNT, STUART WILLIAM ARUNDELL
	Examiner	Art Unit
	Vu Le	2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) 1-26 is/are allowed.
- 6) Claim(s) 27-29 is/are rejected.
- 7) Claim(s) 30-32 is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 April 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>6</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claim 27 is rejected under 35 U.S.C. 102(b) as being anticipated by Holland, US 4,823,204.**

Re claim 27, Holland discloses a flying spot scanner or telecine machine (fig. 1, col. 4, lines 46-50) comprising: a cathode ray tube (10) and a photosensitive detector for detecting light transmitted through the film during use (20), wherein means are provided for allowing light which has not been modulated by the film during use to be detected by the photosensitive detector during the frame blanking interval (col. 5, lines 43-68).

3. **Claims 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Mead, UK 2 314 988.**

Re claim 27, Mead discloses a flying spot scanner or telecine machine (fig. 2) comprising: a cathode ray tube (10) and a photosensitive detector for detecting light transmitted through the film during use (50, 52, 54), wherein means are provided for allowing light which has not been modulated by the film during use to be detected by the

photosensitive detector during the frame blanking interval (55,57,59, page 10, line 8-11).

Re claim 28, a flying spot scanner or telecine as claimed in claim 27, wherein light which has not been modulated by the film is detected from a part of the surface of the cathode ray tube which is not normally used for scanning the film and which is illuminated during the frame blanking interval (page 5, line 14 to page 6, line 7, i.e. scan patch, non-uniformity and burn of CRT are part of the surface of the CRT).

Re claim 29, a flying spot scanner or telecine as claimed in claim 27, wherein the means for allowing light which has not been modulated by the film to be detected comprise semi-silvered and/or fully silvered mirrors for deflecting light from the CRT around the film (fig. 2:40,42).

Allowable Subject Matter

4. Claims 1-26 are allowed.

5. The following is an examiner's statement of reasons for allowance:

For claim 1, also representative for claims 2-26, the prior art record fails to anticipate or render obvious the claimed limitations of:

"A method of calibrating the light system in a flying spot scanner or telecine machine using a cathode ray tube light source and a photosensitive detector, wherein: at a first level of light transmitted to the photosensitive detector a control signal to the photosensitive detector is adjusted to obtain a predetermined video signal, and the value of the control signal is noted; at a plurality of other levels of light transmitted to the

photosensitive detector, the control signal to the photosensitive detector is adjusted to obtain the predetermined video signal, and the values of the respective control signals are noted; and a lookup table is created of calibration values for different levels of light transmitted to the photosensitive detector, so that during normal operation of the telecine machine values in the table can be used to obtain calibration information for different levels of light transmitted to the photosensitive detector."

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Claims 30-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Le whose telephone number is 703-308-6613. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Vu Le
Primary Examiner
AU 2613
(703) 308-6613
Vu.Le@uspto.gov

1. A method of calibrating the light system in a flying spot scanner or telecine machine using a cathode ray tube light source and a photosensitive detector, wherein: at a first level of light transmitted to the photosensitive detector a control signal to the photosensitive detector is adjusted to obtain a predetermined video signal, and the value of the control signal is noted; at a plurality of other levels of light transmitted to the photosensitive detector, the control signal to the photosensitive detector is adjusted to obtain the predetermined video signal, and the values of the respective control signals are noted; and a lookup table is created of calibration values for different levels of light transmitted to the photosensitive detector, so that during normal operation of the telecine machine values in the table can be used to obtain calibration information for different levels of light transmitted to the photosensitive detector.
2. A method as claimed in claim 1, wherein the level of light transmitted to the photosensitive detector is set at different levels by inserting filters of different known density in the light path.
3. A method as claimed in claim 1, wherein the calibration values are obtained at approximately 1 dB intervals.
4. A method of calibrating the light system in a flying spot scanner or telecine machine using a cathode ray tube light source, a photosensitive detector, and a burn corrector system, the burn corrector system being operative during the calibration and serving to adjust a control signal for the photosensitive detector in accordance with variations in the output of the cathode ray tube, wherein: at a first level of drive current for the cathode ray tube a control signal to the photosensitive detector is adjusted to obtain a desired video signal parameter, and the value of the control signal is noted; at a plurality of other levels of cathode ray tube drive current, the control signal to the photosensitive detector is adjusted to obtain desired video signal parameters, and the values of the respective control signals are noted; and a lookup table is created of calibration values for different levels of light, so that during normal operation of the telecine machine values in the lookup table can be used to obtain calibration information for different levels of light transmitted to the photosensitive detector; wherein the video signal parameters are virtual video signal levels taking into account signals from the burn detector.
5. A method as claimed in claim 4, wherein the burn detector includes a black level clamping system which is calibrated prior to adjusting and recording the control signals at the various light levels so as to account for inaccuracies in the black level burn clamping system on the results of the calibration method.
6. A method as claimed in claim 4, wherein the virtual video signal levels are obtained using a software implementation of the burn correction circuitry present in the scanner or telecine machine.
7. A method as claimed in claim 6, wherein the actual video signal levels obtained at the photosensitive detector and corresponding signals from the burn detector are used by the software implementation of the burn correction circuitry to calculate the virtual video signal levels.

8. A method as claimed in claim 7, wherein the method is carried out in a frame blanking interval during which no film image is being scanned such that the calibration can be carried out for each frame of film.

9. A method as claimed in claim 4, wherein any shading correction provided in the scanner or telecine machine is disabled prior to adjusting and recording the control signals at the various light levels.

10. A method as claimed in claim 4, wherein the user interface to the flying spot scanner or telecine is locked out prior to adjusting and recording the control signals at the various light levels.

11. A method as claimed in claim 4, wherein the initial settings of parameters of the flying spot scanner or telecine which will be altered during the calibration process are recorded prior to adjusting and recording the control signals at the various light levels.

12. A method as claimed in claim 4, the method being automated such that it can be carried out automatically at the request of a user.

13. A method as claimed in claim 4, wherein the adjustment of the control signal to the photosensitive detector is carried out iteratively.

14. A method as claimed in claim 13, wherein means are provided for allowing a user to specify the number of iterative loops required.

15. A method as claimed in claim 4, wherein the method is carried out in a frame blanking interval during which no film image is being scanned such that the calibration can be carried out for each frame of film.

16. A method as claimed in claim 15, wherein means are provided for allowing light which has not been modulated by the film in the scanner or telecine to be detected by the photosensitive detector during the frame blanking interval.

17. A method as claimed in claim 16, wherein light which has not been modulated by the film is detected from a part of the surface of the cathode ray tube which is not normally used for scanning the film and which is illuminated during the frame blanking interval.

18. A method as claimed in claim 17, wherein the means for allowing light which has not been modulated by the film to be detected comprise semi-silvered and/or fully silvered mirrors for deflecting light from the CRT around the film.

19. A method as claimed in claim 18, wherein the mirrors are arranged in a periscope type arrangement.

20. A method as claimed in claim 18, wherein the mirrors are arranged to deflect only the light emitted from the part of the surface of the cathode ray tube which is not normally used for scanning the film.

21. A method as claimed in claim 18, wherein neutral density filters are provided in the optical path of the mirrors to avoid video overload of the uncorrected signal from occurring.

22. A method as claimed in claim 1, wherein the method is carried out when there is no film in the scanner or telecine machine, and the lookup table obtained is applied to the data obtained during subsequent scanning operations until the calibration method is repeated.

23. A method of calibrating the light system in a flying spot scanner or telecine machine using a cathode ray tube light source, a photosensitive detector which will always obtain a video signal corresponding to the level of light transmitted to it, and a burn corrector system, the burn corrector system being operative during the calibration and serving to adjust a control signal for the photosensitive detector in accordance with variations in the output of the cathode ray tube, the method comprising: (A) performing a first calibration including carrying out the following functions when there is no film in the scanner: (i) at a first level of light transmitted to the photosensitive detector, the photosensitive detector obtaining an actual video signal corresponding to the level of light, adjusting a control signal to the photosensitive detector to obtain a predetermined video signal and noting the value of the control signal; (ii) at a plurality of other levels of light transmitted to the photosensitive detector, the photosensitive detector obtaining an actual video signal corresponding to each of the other levels of light, adjusting the control signal to the photosensitive detector to obtain the predetermined video signal and noting the values of the respective control signals; and (iii) creating a lookup table of calibration values for different levels of light transmitted to the photosensitive detector, so that during normal operation of the telecine machine values in the table can be used to obtain calibration information for different levels of light transmitted to the photosensitive detector; (B) applying the lookup table to data obtained during subsequent scanning operations until the first calibration method is repeated; (C) performing the calibration method as claimed in claim 8; and (D) comparing the actual video signals obtained by the photodetector during the first calibration with the actual video signals obtained when calibrating the system according to the method of claim 14, so as to detect any change over time in the levels of the actual video signals obtained.

24. Software for automatically implementing the method as claimed claim 1.

25. Software for automatically implementing the method as claimed claim 4.

26. Apparatus for implementing the method as claimed in claim 4.

27. A flying spot scanner or telecine machine comprising a cathode ray tube and a photosensitive detector for detecting light transmitted through the film during use, wherein means are provided for allowing light which has not been modulated by the film during use to be detected by the photosensitive detector during the frame blanking interval.

28. A flying spot scanner or telecine as claimed in claim 27, wherein light which has not been modulated by the film is detected from a part of the surface of the cathode ray tube which is not normally used for scanning the film and which is illuminated during the frame blanking interval.

29. A flying spot scanner or telecine as claimed in claim 27, wherein the means for allowing light which has not been modulated by the film to be detected comprise semi-silvered and/or fully silvered mirrors for deflecting light from the CRT around the film.

30. A flying spot scanner or telecine as claimed in claim 29, wherein the mirrors are arranged in a periscope type arrangement.

31. A flying spot scanner or telecine as claimed in claim 29, wherein the mirrors are arranged to deflect only the light emitted from the part of the surface of the cathode ray tube which is not normally used for scanning the film.

32. A flying spot scanner or telecine as claimed in claim 29, wherein neutral density filters are provided in the optical path of the mirrors to avoid video overload of the uncorrected signal from occurring.